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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,185

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Valter Drazic

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11/30/2006

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EXAMINER

MARTINEZ, JOSEPH P

ART UNIT

PAPER NUMBER

2873

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/537,185

Applicant(s)

DRAZIC ET AL.

Examiner

Joseph P. Martinez

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____                                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6-2-05</u> .  | 6) <input type="checkbox"/> Other: ____                           |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crossland et al. (6654156) in view of Moskovich (5625495) in further view of Travis (7101048).

Re claim 1, Crossland et al. teaches for example in fig. 1, a lens system (3) for use in a projection system for relaying light output from a first imager (1) on a pixel-by-pixel basis onto a second imager (5).

But, Crossland et al. fails to explicitly teach the lens system comprising a double gauss lens set having a distortion of less than about 0.015% with at least about 90% of the light energy of a specific pixel projected within a 15.4 micrometer square.

However, within the same field of endeavor, Moskovich teaches for example in fig. 12, 14 and 16, a double gauss lens (fig. 12 and 14) set having a distortion of less than about 0.015% (col. 8, ln. 23) with at least about 90% of the light energy of a specific pixel projected (col. 8, ln. 24-28).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Crossland et al. with the relay lens of Moskovich in order to provide a uniformly bright display.

But, Crossland et al. in view of Moskovich fail to explicitly teach a 15.4 micrometer square.

However, within the same field of endeavor, Travis teaches for example, a pixel is 15.4 micrometer square (col. 7, ln. 47-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Crossland et al. in view of Moskovich with the pixel size of Travis in order to provide a high resolution display.

Re claim 2, Moskovich further teaches for example in Tables 1-15, said double gauss lens set has a magnification of between about  $-0.9997$  and  $-1.0003$ .

Re claims 3 and 4, supra claim 1. Furthermore, Moskovich further teaches for example, said double gauss lens set has a telecentricity (abstract).

But, Crossland et al. in view of Moskovich in further view of Travis fail to explicitly teach an input and output angle deviation of less than about 1.05 degrees or with an input angle deviation of less than 1.03 degrees and an output angle deviation of less than 1.0 degrees.

However, Moskovich teaches for example, minimizing the angles of incidence (col. 4, ln. 36-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Crossland et al. in view of Moskovich in further view of Travis, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Re claim 5, Moskovich further teaches for example in fig. 11, said double gauss lens set consists of a pair of symmetrical aspherical lenses (L3, L4) surrounding a pair of symmetrical achromatic lenses (L2, L5; col. 5, ln. 21-23).

Re claim 6, Moskovich further teaches for example, said achromatic lenses comprise optical glass (Table 12).

Re claims 7 and 8, supra claim 1.

But, Crossland et al. in view of Moskovich in further view of Travis fail to explicitly teach the distance between the first and second imagers is less than about 165 mm or about 161.25 mm.

However, Moskovich further teaches for example in Tables 1-15, varying the distance between lenses.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Crossland et al. in view of Moskovich in further view of Travis, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Re claim 9, Moskovich further teaches for example in Tables 1-15, the double gauss lens set has an F-number no greater than about 2.8.

2. Claims 10, 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crossland et al. (6654156) in view of Moskovich (5625495).

Re claim 10, Crossland et al. teaches for example in fig. 1, an imager (1) to imager (5) relay lens system (3) for use in a projection system configured to project the light from a particular pixel on a first imager onto a corresponding pixel on a second imager (col. 1, ln. 54-65).

But, Crossland et al. fails to explicitly teach a lens set consisting of one pair of equivalent achromatic lenses (L2, L5) and one pair of symmetrical aspherical lenses (L2, L5; col. 5, ln. 21-23) positioned and configured to project the light.

However, within the same field of endeavor, Moskovich teaches for example in fig. 12 and 14, a lens set consisting of one pair of equivalent achromatic lenses (L2, L5) and one pair of symmetrical aspherical lenses (L2, L5; col. 5, ln. 21-23) positioned and configured to project the light.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Crossland et al. with the relay lens of Moskovich in order to provide a uniformly bright display.

Re claims 12 and 13, supra claim 10. Furthermore, Moskovich further teaches for example, said double gauss lens set has a telecentricity (abstract).

But, Crossland et al. in view of Moskovich fail to explicitly teach an input and output angle deviation of less than about 1.05 degrees or with an input angle deviation of less than 1.03 degrees and an output angle deviation of less than 1.0 degrees.

However, Moskovich teaches for example, minimizing the angles of incidence (col. 4, ln. 36-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Crossland et al. in view of Moskovich, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Re claims 14 and 15, supra claim 10.

But, Crossland et al. in view of Moskovich fail to explicitly teach the distance between the first and second imagers is less than about 165 mm or about 161.25 mm.

However, Moskovich further teaches for example in Tables 1-15, varying the distance between lenses.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Crossland et al. in view of Moskovich in further view of Travis, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Re claim 16, Moskovich further teaches for example in Tables 1-15, the double gauss lens set has an F-number no greater than about 2.8.

3. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crossland et al. (6654156) in view of Moskovich (5625495) in further view of Travis (7101048).

Re claim 11, supra claim 10. Furthermore, Moskovich teaches for example in fig. 12, 14 and 16, a double gauss lens (fig. 12 and 14) set having a distortion of less than about 0.015% (col. 8, ln. 23) with at least about 90% of the light energy of a specific pixel projected (col. 8, ln. 24-28) and said relay lens system further having a magnification of between about  $-0.9997$  and  $-1.0003$  (Tables 1-15).

But, Crossland et al. in view of Moskovich fail to explicitly teach a 15.4 micrometer square.

However, within the same field of endeavor, Travis teaches for example, a pixel is 15.4 micrometer square (col. 7, ln. 47-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Crossland et al. in view of Moskovich with the pixel size of Travis in order to provide a high resolution display.

### ***Conclusion***



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph P. Martinez whose telephone number is 571-272-2335. The examiner can normally be reached on M-F 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM  
11-26-06



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Primary Examiner  
TC 2800